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File FYI

This file contains everything to create a private actor counterplan. The text should be something to the effect of the US incentivizing private actors to do the plan. It contains evidence for solving multiple affs produced at camp along with generic solvency and answers to possible aff arguments.

There is no net benefit including but it doesn't link to many of the DAs produced at camp. I would suggest running it alongside politics because there is some pretty good evidence (first card in AT: Links to Politics) which states that it doesn't link. Many other DAs that have links from USfg unilateral action in space could also function as net benefits.

1NC

CP Text:

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The CP is competitive through net benefits

Solvency:

1. Small businesses innovations for space science are more efficient than NASA

Mary Lynne Dittmar, Ph.D.\* January 14, 2004 Dittmar Associates, Houston, TX 7758611/2/2007, http://dittmar-associates.com/Publications/The%20Politics%20of%20Space%20Economics.pdf

Small business participation shall occur on the basis of innovation, technical achievement, and cost competitiveness, rather than through mechanisms such as subcontracting or set-asides.American Institute of Aeronautics and Astronautics“Cost-sharing” in the classical sense is not viable for small businesses. However, it is possible to vastly improve the cost-benefit ratio currently associated with the participation of Small Business involved in NASA efforts. Under the current model, the majority of small businesses associated with NASA (and other government agencies) are relegated to the role of subcontractor to the major aerospace companies. As such, their contributions are directed by and frequently limited to execution of specific tasking under the larger government contract. Yet, independent small businesses represent 99.7% of all employers, employ half of all private sector employees, generate 60 to 80% of net new jobs annually, and with regard to innovation produce 13 to 14 times more patents than large businesses.Providing mechanisms for small business to “stand alone” and enter the Exploration Enterprise on the basis of innovation and technical achievement rather than on subcontracting has the potential for major benefits to NASA. This could begin through elimination of many of the flow-downs regarding financial reporting and accounting that are beyond the ability of most small businesses to manage.Sustaining the VSE over a 30-40 years timeframe will require the development of a viable cost-sharing model which includes full participation of willing international partners, together with a well-coordinated public relations program that will remain in place for the lifespan of the Space Exploration program. The program will need to be continually refreshed and possibly reconstituted across 30-40 years in order to “keep current” with changes in the public, political, media, business, and educational environments. In addition, it should rely to the greatest extent possible upon professional market surveying and analysis techniques in order to acquire and make best use of data reflecting public and political issues. To the greatest extent possible, this effort or something like it should begin immediately. Of all the challenges facing the VSE, sustainability may be both the least understood and the most critical for the success of a new era in Space Exploration.

2. Incentives motivate private companies to go into space

Jakhu and Buzdugan 08 (Ram Maria, Kakhu: is the chairman of the legal and regulatory committee of international association, member of the board of the international institute of the space law international astronautical federation, Buzdugan a member of the institute of air and space law, “Development of the Natural Resources of the Moon and Other Celestial Bodies: Economic and Legal Aspects”, <http://www.informaworld.com/smpp/content~db=all~content=a905076663> )

The path of gradual commercialization of current space applications, such as launch services, satellite communication services, direct broadcasting services, satellite remote sensing and navigation services, and satellite weather monitoring services, will most likely be followed by future activities of use of space resources. Ventures, like mining the natural resources of the Moon and asteroids, are likely to become technologically feasible in the near future. The question is what would be the most appropriate approach to address the future needs of exploitation of space resources: should it remain the exclusive province of state governments; should the private sector take over such space activities; or should a public-private partnership type of venture be encouraged? As state governments are becoming constrained by budget deficits, an increased reliance on private sector involvement in space activities involving the extraction and use of space resources is to be expected. When deciding whether to invest in commercial ventures of resource use exploitation, any potential private investor will be faced with the issues of economic costs, risks, and perceived regulatory barriers. This study argues that the perceived regulatory barriers, i.e., the licensing requirement, the “common heritage of mankind” principle of international space law, and protection of intellectual property rights, are not obstacles to economic development. Governments should provide both policy and regulatory incentives for private sector participation in the area of space natural resource use by funding basic research and development and by sponsoring liability insurance for private ventures among other incentives.

Solve: Exploration

**Private investment in space is essential for the continuation of space exploration**

**Sherrif, 2005** (Lucy Sherriff, “Private enterprise needed in space” 07/23/11, <http://www.theregister.co.uk/2005/11/17/nasa_private_investment/>

NASA has said commercial investment will prove vital to its future efforts in space exploration. Ex-staffers backed the sentiment, saying NASA has too much on its plate to go it alone. The agency needs to fill a funding black hole of between £3bn and $5bn. It has already cannibalised the research budget of the International Space Station so that its construction can be completed. It also needs to find cash for maintaining missions already in progress, as well as putting man back on the moon and forming a decent plan to get to Mars. The agency's chief administrator Michael Griffin told the American Astronautics Society that private investment in space could be the "dawn of the true space age", Space.com reports. He called on American industry to get involved in developing commercial cargo and crew ships, as well as putting private fuelling stations in low Earth orbit to help with the bid to get manned missions back to the Moon and to Mars. "We want to be able to buy these services from American industry. It will not be government business as usual," he said.

Solve: Incentives

**Private companies can fill the gap for NASA**

Jeff **Reeves, ’11** Financial journalist, Editor, InvestorPlace.com (Three Private Companies Building Space Shuttle Replacements) {Huffpost Business} 7/21/11 05:30 PM <http://www.huffingtonpost.com/jeff-reeves/3-private-companies-build_b_904760.html>)

It's amazing how a simple signature in Washington can cause an explosion in innovation. No, I'm not talking about new laws, but rather, the loosening of federal oversight that opens the door to the private sector. Consider a seemingly arcane move in 2000, made by President Clinton, to change Global Positioning System data from "selective availability" to public record. His approval opened the floodgates to spawn an entire consumer technology industry for GPS systems we now take for granted. Savvy investors who saw the big potential in privatization made a killing as a result. Consider that from 2001 to 2007, Garmin (GRMN) stock soared from less than $10 in 2000 to more than $120 in 2007, while the market added about 25% in the same period. As the space shuttle Atlantis returns to earth this week and closes the curtains on two decades of NASA's shuttle program, privatized space flight may provide a similar opportunity for innovation - and investors. So which corporations could be the biggest players in this new space race? Here are three publicly traded companies that could be big players:

Solve: Human Space Flight

**Private Companies can develop human space missions**

**Reeves 11** (Jeff, Financial journalist, Editor, InvestorPlace.com **(**Three Private Companies Building Space Shuttle Replacements) {Huffpost Business} 7/21/11 05:30 PM <http://www.huffingtonpost.com/jeff-reeves/3-private-companies-build_b_904760.html>)

A great small-cap space stock with potential in the private space race is Orbital Sciences Corporation (NYSE:ORB). Orbital Sciences develops and rockets and space systems for commercial customers, the military and NASA. The space stock mostly places satellites into orbit, but manned space missions wouldn't be much of a stretch for this company. Early indications are that Orbital Sciences is looking to the stars. In December 2010, [Orbital submitted its plans for a space shuttle replacement](http://www.bizjournals.com/washington/news/2010/12/15/orbital-sciences-proposes-shuttle.html" \t "_hplink) to NASA. Orbital's vehicle would launch atop an expendable rocket and return to Earth with a conventional runway landing like that of the shuttle. A shuttle replacement vehicle is initially needed to ferry astronauts to and from the International Space Station, and Orbital Sciences designed a vehicle with four seats. What's more, alternative designs would allow room for commercial passengers in future years if private.

Solve: Moon

**Private enterprise has the goal already set to get to the moon and begin mining**

**Chang ’11** (Kenneth, July 21, 2011, Ph.D. in physics from the University of Illinois but instead left after seven years to attend the science writing program at University of California at Santa Cruz, <http://topics.nytimes.com/topics/reference/timestopics/people/c/kenneth_chang/index.html?inline=nyt-per>)

Spurred by a $30 million purse put up by Google, 29 teams have signed up for a competition to become the first private venture to land on the Moon. Most of them are unlikely to overcome the financial and technical challenges to meet the contest deadline of December 2015, but several teams think they have a good shot to win — and to take an early lead in a race to take commercial advantage of our celestial neighbor. At the very least, a flotilla of unmanned spacecraft could be headed Moonward within the next few years, with goals that range from lofty to goofy. One Silicon Valley venture, [Moon Express](http://www.moonexpress.com/), is positioning itself as a future FedEx for Moon deliveries: if you have something to send there, the company would like to take it. Moon Express was having a party on Thursday night to show off the flight capabilities of its lunar lander, based on technology it licensed from NASA, and “to begin the next era of the private commercial race to the Moon,” as the invitation put it. “In the near future, the Moon Express lunar lander will be mining the Moon for precious resources that we need here on Earth,” the invitation promised. “Years from now, we will all remember we were there.”

Private companies are waiting in line to go to the moon

Washington Business Time, July 21, 2011, “After Atlantis, Private firms Eye Space Flight Commodities, Riches”. The International Business Times is the leading source of analysis on international business and world affairs. We deliver our information through a range of formats, from newspapers and magazines to conferences and electronic services.

When the space shuttle Atlantis touched down the early hours of Thursday morning, it marked the end of NASA's shuttle program. But a new constellation of companies is set to fill the void: instead of NASA ferrying astronauts into space, private firms are vying to become the first to return to the moon.Google is prodding the burgeoning sector by bankrolling a contest to return people to the moon by December 2015, with the Google Lunar X Prize of $30 million going to the winner. 29 firms have already signed up, [boasting ideas](http://www.nytimes.com/2011/07/22/science/space/22moon.html?pagewanted=1&_r=1) that range from broadcasting video feeds from the lunar surface to selling space to scientific institutions."In the near future, the Moon Express lunar lander will be mining the Moon for precious resources that we need here on Earth," an invitation to a launch event for Silicon Valley based Moon Express read. "Years from now, we will all remember we were there."The prize money aside, there is a big financial incentive for getting in early on an untapped market. Barney Pell, a former NASA computer scientist who co-founded Moon Express, called it "the biggest wealth creation opportunity in modern history.""Long term, the market is massive, no doubt," Pell said. "This is not a question of if. It's a question of who and when. We hope it's us and soon."Private firms have already begun sending people into space -- Virgin Galactic sells tickets on its orbital spaceship for [$200,000 apiece](http://www.virgingalactic.com/booking/) -- but the demise of NASA's shuttle program means the agency is playing a deliberate role in in fostering the private space flight industry.It has contributed money to the Lunar X prize fund, and in April the agency distributed $269.3 million between five U.S. aerospace companies who are busy developing systems to transport astronauts to the International Space Station (in the meantime, American astronauts will be paying Russia $43.4 million per seat for the privilege). Space Exploration Technologies Corp. said it is on pace to offer space flights for about $20 million a seat."It has to be done for an amount of money that taxpayers are willing to pay," Chief Executive Elon Musk told the Wall Street Journal. "That should allow NASA to transport a much greater number of astronauts and to get much more use out of the space station."In addition to funding, NASA is providing personnel. Former astronauts, cognizant of NASA's dwindling resources and diminished scope, are transitioning into the private sector. The Washington Post reported that former astronaut Garrett Reisman will be helping SpaceX, which already has a contract to resupply the International Space Station, develop its Dragon transport capsule. His work will parallel that opf former colleague Pamela Melroy, who will be working to establish rules for the private space industry from her new position at the Federal Aviation Administration.

**Boeing has the technology to build a lunar rover**

Jeff **Reeves, ’11** Financial journalist, Editor, InvestorPlace.com **(Three Private Companies Building Space Shuttle Replacements**) {Huffpost Business} 7/21/11 05:30 PM **http://www.huffingtonpost.com/jeff-reeves/3-private-companies-build\_b\_904760.html**

**Boeing**

Of course, you can't overlook one of the other major aerospace contractors as one of Lockheed's chief competitors in the race for private space travel: Boeing. After all, Boeing was a crucial part of the Apollo space programs that sent America to the moon -- including building the first stage of the Saturn V rocket that launched the spacecraft and providing NASA with the lunar rover that bounced astronauts around the moon. Boeing's 2000 acquisition of Hughes Space and Communications Company has made it one of the [primary providers of commercial satellite launches](http://www.boeing.com/defense-space/space/bss/programs.html" \t "_hplink) for companies that include Sirius XM and DirecTV, among others. And Boeing was awarded $18 million from NASA in the past year as seed money to advance the concepts and technology necessary to build a commercial space transportation system. Boeing isn't alone, of course, and the contract was one of several efforts by the government to jump-start new spaceship development and fill the void left by NASA's retiring shuttles. But clearly such acknowledgement from Washington and such a considerable sum gives Boeing a leg up in the new private space race.

*Jeff Reeves is editor of InvestorPlace.com. Write him at jreeves@investorplace.com.*

Solve: Motivation

NASA is effectively bankrupt and Private industry wants to pick up the Space Baton

Boaz executive vice president for the CATO institute September 15, 2008 @ 4:11 pm(http://www.cato-at-liberty.org/space-privatization-from-cato-to-the-bbc/

In the premier issue of BBC Knowledge, the Cambridge University astrophysicist Martin Rees makes several provocative arguments about manned space flight. They are:The completion of the International Space Station (ISS) comes with a price tag of $50 billion, with the only profit being the cooperation with foreign partners.There is no scientific, commercial, or military value in sending people to space.Future expeditions to the Moon and beyond will only be politically and financially feasible if they are cut-price ventures. He concludes that fostering good relations with other countries is insufficient justification for the expenditures, and that NASA should move aside and allow the private sector to play a role in manned space flight. The cost of these activities must lessen if they are to continue, and that will only happen with a decrease or removal of government involvement. Rees observes that only NASA deals with science, planetary exploration, and astronauts, while the private sector is allowed to exploit space commercially for things such as telecommunications. However, there is no shortage of interest in space entrepreneurship: wealthy people with a track record of commercial achievement are yearning to get involved. Rees sees space probes plastered with commercial logos in the future, just as Formula One racers are now.Those ideas may sound radical, but not if you’ve been following the work of the Cato Institute. As long ago as 1986, Alan Pell Crawford wrote hopefully that “space commercialization … is a reality,” and looked forward to the country making progress toward a free market in space. The elimination of NASA was a recommendation in the Cato Handbook for Congress in 1999.Edward L. Hudgins, former editor of Regulation magazine, wrote a great deal about private options in space. In 1995, he testified before the House Committee on Appropriations that the government should move out of non-defense related space activities, noting the high costs and wastefulness incurred by NASA. In 2001, Hudgins wrote “A Plea for Private Cosmonauts,” in which he urged the United States to follow the Russians (!) in rediscovering the benefits of free markets after NASA refused to honor Dennis Tito’s request for a trip to the ISS. Hudgins testified again before the House in 2001, this time before the Subcommittee on Space and Aeronautics. He noted that since the beginning of the Space Age, NASA has actively discouraged and barred many private space endeavors. This effectively works against the advancement and expansion of technology, while pushing out talent to foreign countries who court American scientists and researches to launch from their less-regulated facilities. In “Move Aside NASA,” Hudgins reported that neither the station nor the shuttle does much important science. This makes the price tag of $100 billion for the ISS, far above its original projected cost, unjustifiable.Michael Gough in 1997 argued that the space “shuttle is a bust scientifically and commercially” and that both successful and unsuccessful NASA programs have crowded out private explorers, eliminating the possibility of lessening those problems. Molly K. Macauley of Resources for the Future argued in the Summer 2003 issue of Regulation that legislators and regulators had failed to take into account “the ills of price regulation, government competition, or command-and-control management” in making laws for space exploration.We welcome the BBC and the Astronomer Royal to the cause of private, entrepreneurial exploration of the cosmos.

Government to Private Success

**The US can put space operations into private owners hands and still use the ISS if needed- We solve all impacts**

**Hudgins ’04** (director of The Objectivist Center & editor of the Cato Institute book, january 28, 2004, Edward L., “Move Aside, NASA”, <http://www.cato.org/pub_display.php?pub_id=2514>)

Governments simply cannot provide commercial goods and services. Only private entrepreneurs can improve quality, bring down the prices, and make accessible to all individuals cars, airline trips, computers, the Internet, you name it. Thus, to avoid the errors of the shuttle and space station, NASA's mission must be very narrowly focused on exploring the moon and planets, and perhaps conducting some basic research, which also might serve a defense function. This will mean leaving low Earth orbit to the private sector. Thus, the shuttle should be given away to private owners. The United Space Alliance, the joint venture between Boeing and Lockheed-Martin that refurbishes the shuttle between flights, would be an obvious candidate. Let a private owner fly it for paying customers--including NASA, if necessary -- if it is still worth flying. NASA also should give up the money-draining space station, and sooner rather than later. The station might be turned over to international partners or, better still, to the mostly private Russian rocket company, Energia -- and the Western investors who were in the process of commercializing and privatizing the Mir space station before the Russian government brought it down for political reasons. If need be, NASA can be a rent-paying station tenant. NASA centers that drive up its overall budget but do not directly contribute to its mission should be shut down. If the government wants to continue satellite studies of the climate and resources or other such functions, they could be turned over to other agencies, such as EPA and Interior Department.

**Contracting out NASA missions will assist our wasteful government spending**

**Hudgins ’04** (director of The Objectivist Center & editor of the Cato Institute book, january 28, 2004, Edward L., “Move Aside, NASA”, <http://www.cato.org/pub_display.php?pub_id=2514>)

NASA and the rest of the government should contract for launch services with private companies, which would handle transportation to and from low Earth orbit. Contracting with private pilots with private planes is what the Post Office did in the 1920s and 1930s, which helped the emerging civil aviation sector. Further, to facilitate a strong private space sector, the government needs to further deregulate launches, export licensing and remove other barriers to entrepreneurs. Creating enterprise zones in orbit would help make up for government errors of the past. Rep. Dana Rohrabacher proposes a "Zero Gravity, Zero Tax" plan that would remove an unnecessary burden from "out-of-this-world risk-takers." NASA will also need to do business in new, innovative ways. For example, if a certain technology is needed for a moon mission, NASA could offer a cash prize for any party that can deliver it. The federal government used such an approach for aircraft before World War II, modeled after private prizes that helped promote civil aviation. Even if the federal government foots the bill for a moon base, it should not own it. Rather, NASA should partner with consortia of universities, private foundations and even businesses that are interested in advancing human knowledge and commercial activities. NASA could simply be a tenant on the base.

Obama planning on private actors playing a major role in space exploration

Democracy Now, 2010 A daily TV/radio news program, hosted by Amy Goodman and Juan Gonzalez, airing on over 900 stations, pioneering the largest community media collaboration in the United States. <http://www.democracynow.org/2010/4/16/nasa?gclid=CMrFz-u9mKoCFeUaQgodnHIMxQ>

President Obama outlined his new space exploration policy on Thursday with a pledge to add $6 billion to NASA’s annual budget over the next five years and seek a landing on Mars by the mid-2030s. His program would also bolster support for private space companies that would handle design and construction of the spacecraft and boosters.

NASA wants privatize their space programs

RedOrbit, 9 (RedOrbit.com has since become the premier internet destination for space, science, health, and technology enthusiasts around the globe. RedOrbit.com is committed to providing stimulating, original content and presentation, with over 1,500,000 pages covering the vast ideological spectrums of space, science, health, and technology. The beautiful and engaging forum created at RedOrbit.com promotes a friendly and open environment, enhancing user loyalty and community, while advancing RedOrbit's goal of providing the world with a virtual Utopia for intelligent, curious minds. <http://www.redorbit.com/news/space/1687305/nasas_freemarket_solution/>

Since the inception of NASA, the space agency has designed all of its own rockets, spacecrafts and orbiters. However, after nearly half a century it has finally approved the outsourcing of equipment enabling manned space missions to private contractors. NASA Administrator Chris Scolese told a congressional subcommittee last week that the agency intends to provide $150 million in stimulus-package money to private companies that design, build and service their own rockets and crew capsules. This is spacecraft that could send astronauts in orbit while NASA works to finish building the space shuttle’s replacements. On Thursday, the White House ordered a complete review of the entire manned space program to be led by long time friend of private space ventures, former Lockheed Martin CEO of Norman Augustine. This turn in events shows that the space agency - that at one point seemed to be dragging its heels - and the Obama administration are both ready to promote and make possible commercial human space flight. This is a drastic change, and one that has the potential to lessen the American dependency on Russia for the next 5 years after the space shuttle program ends. It could restart a space program that seems to have lost steam for the past 40 years. William Watson, executive director of the Space Frontier Foundation, a Houston-based group promoting commercial space activities says, "Our government space program has become over-burdened with too many objectives, and not enough cash.” Watson comments that by giving private companies permission to take on routine orbital duties, NASA could be freed to focus on returning to the moon and going to Mars. Scolese said that they will be rewarding $80 million in stimulus money to the company that demonstrates the best “crewed launch demo”, a prototype based on existing cargo-capsule designs that have been modified for humans. The agency emphasized that this competition was open to all. Space flight companies SpaceX and Orbital Sciences are considered to be the best-situated contenders. Both of them already have cargo capsules and a full line of rockets ready to go, and the capsules can be converted to transport astronauts. Neither of the firms have wanted to speak up about their sudden increase in opportunity. Orbital Sciences didn't respond to any questions and SpaceX says that it has been “encouraged by NASA's commercial crewed services initiative." NASA’s savings in time and money are significant. These leading contractors are building their launch vehicles from scratch. Their designs highlight incredibly efficient business models with low manufacturing costs. They also manage to operate with at only a few dozen employees at their launch sites, which is a stark contrast to the space shuttle program’s 15,000 workers. The aversion NASA seems to have to competing American space ventures goes back at least to the early 1990s, when Lockheed Martin was financed by the Pentagon’s Strategic Defense Initiative Organization (SDIO) to developed the DC-X suborbital experimental rocket. The Defense department considered the space shuttle to be unreliable and costly, so their intention was to get payloads into orbit using a different reusable craft. NASA believed that it would be many years before such Reusable Launch Vehicles (RLVs) would be ready to fly, and some inside the agency saw it as a threat to its monopoly on human space flight. In the year 2000, NASA even opposed the giving a broke Russian space agency a $20 million deal to send American billionaire, Dennis Tito as the first "space tourist.” But then the death of seven astronauts in the Columbia space-shuttle disaster of February 2003 forced NASA to reconsider its position on the issue. The Columbia Accident Investigation Board's final report stated bluntly that it "found a NASA blinded by a 'Can Do' attitude, a cultural artifact of the Apollo era that was inappropriate in a Space Shuttle program so strapped by schedule pressures and shortages that space parts had to be cannibalized from one vehicle to launch another." The report went on to say that NASA's close relationship with a small number of major contractors and its problems integrating political and legal demands with the need to maintain engineering excellence had burdened the agency to the breaking point. Then in January 2004, President George W. Bush decided to restart the space program, announcing his "Vision for Space Exploration" was to return to the moon and send humans to Mars. In October 2004, engineer Burt Rutan's SpaceShipOne won the $10 million Ansari X Prize. His rocket was the first privately built flying machine to ever reach space. There was, however, a catch to the Bush plan. As part of the ambitious new program, the 30-year-old space-shuttle program will be ending next year, which will save NASA $3 billion each year to spend on new spacecraft. The first spacecraft is due to fly in late 2015. This plan has created a gap in America's ability to launch astronauts and cargo to the International Space Station (ISS). For at least five years, NASA will have to depend mostly on Russia to send Americans into space, a situation with which many space experts and politicians take issue. After these occurrences, NASA became considerably more open to commercial ventures. In late 2005, the agency Administrator at the time, Michael Griffin, reported that NASA was considering buying crew and cargo transportation services to the ISS from private industries. "We believe that when we engage the engine of competition, these services will be provided in a more cost-effective fashion than when the government has to do it," Griffin said. In 2006, the first of the Commercial Orbital Transportation Services (COTS) contracts was won by SpaceX, which received a contract worth $278 million, and by Rocketplane, which was supposed to get $207 million. Space Exploration Technologies Corporation, or SpaceX for short, founded by PayPal entrepreneur Elon Musk, had already been working hard on its Falcon series of rockets. It had also finished initial designs on a multipurpose capsule called the Dragon, which could be adapted to carry either crew or cargo to the ISS on a Falcon 9. SpaceX was supported primarily by Musk's personal funds, but it also had a small number of contracts to launch satellites for the Defense Department and from overseas. Rocketplane Kistler, unlike SpaceX, was highly innovative but lacked finances. It promised to build on an earlier RLV program that had failed to get off the ground after a promising start in the late 1990s. In October 2007, Rocketplane Kistler's NASA contract was aborted due to its failure to meet the financial milestone requirements. The remaining $170 million from the Rocketplane Kistler allowance was awarded to Orbital Sciences Corporation, for its Taurus 2 launcher and Cygnus capsule combination.  
Orbital is one of the only entrepreneurial space firms that have successfully gone from start-up to billion-dollar status. They not only build the Pegasus and Taurus launchers, but have also established a good reputation in building small-to-medium-sized commercial and scientific satellites and space probes. Most importantly, both SpaceX and Orbital Sciences are well funded and commercially feasible, which is a critical factor to NASA. It is much preferred for a private company to show a readiness to invest its own money rather than just spend NASA’s money. Not everyone involved in NASA is pleased with this idea. Apollo 11 astronaut Buzz Aldrin, the second man to walk on the moon, told FoxNews.com that "in order to preserve U.S. leadership in space, it would be better to invest in a lifting body lander, a spaceplane that would land on a runway like the Shuttle does now…there is a [NASA] design called the HL-20 that could be launched on an existing reliable rocket and could be ready for a demonstration flight in 2013." The Space Frontier Foundation's Watson goes even further. "Let's have an American competition in space — to create good jobs, fuel innovation and close the [spaceflight] gap more quickly," he said. "With private funds matching government investment, we can dramatically leverage taxpayer dollars to produce breakthroughs in a new American industry — commercial orbital human spaceflight."

Private Solves Humans in Space

Manned Space flight must be privatized-or risk going extinct

Baisley, july 22 2011(Mark Baisley is a staff writer for Townhall Finance.com) http://finance.townhall.com/columnists/markbaisley/2011/06/05/nasa\_innovation\_is\_gov\_exception\_that\_proves\_rule

A warm “welcome home!” to the crew of the Space Shuttle Endeavour, who landed early Wednesday morning at the Kennedy Space Center. Endeavor’s final odometer reading is 122,883,151 miles after 25 trips to space and back. The orbiter has one last trip planned; transportation to Los Angeles for permanent display at the California Science Center.The Space Shuttle Atlantis is now parked at Launch Pad 39A at the Kennedy Space Center, being readied for the final flight of the fleet, scheduled for launch on July 8.America’s manned space flight program has been one of the real success stories for the productive use of government. A capability first developed for exploration became a key component for commercial space missions. The highly trained astronaut workforce has provided satellite assemblies, lab experiments, equipment maintenance and repairs in low-earth orbit. One of the most productive missions in manned space flight history took place in November of 1984. After completing their original mission of deploying two satellites, the crew of the Space Shuttle Discovery caught up with two other satellites whose malfunctioning kick motors had failed to achieve their proper orbits. Both satellites, the Boeing-built PALAPA and a Hughes-built Westar, were retrieved and returned safely to Earth in the shuttle’s payload bay. I was an engineer for Hughes at the time and enjoyed the rare opportunity of examining both of these historically retrieved satellites shortly after their arrival in California for refurbishing.Once the Space Shuttle Atlantis returns from its final mission next month, the U.S. will put on hold its manned space flight program. It will be at least five years before the Orion “crew vehicle” and its intended launch vehicle, the Space Launch System, are ready to return astronauts to space. While unmanned launches will continue, many aerospace professionals are lamenting the absence of an American program for transporting humans into space. But I see a positive here. The commercial interests for a human presence in space will create the kind of market need that can only be met by the kind of extraordinary innovation that Americans are famous for. I predict that the baton will naturally be passed from the government-operated NASA to private firms who will find resourceful ways to meet the demand.The Orion Multi-purpose Crew Vehicle barely survived recent budget cuts as the current administration moves its priorities from private innovation to domestic imperialism (see my April 17articlehttp://finance.townhall.com/columnists/markbaisley/2011/04/17/obamas\_domestic\_imperialism). But Orion is already being developed by private industry, under contract to NASA. And that natural response by American entrepreneurs to meet a demand with cost-effective ingenuity will increase as the government’s attentiveness to that market declines.Perhaps the sweetest example of a successful transition from government-sponsored invention to commercial operation is the Internet. The Defense Advanced Research Projects Agency (DARPA) launched the Internet in the same year that Neil Armstrong set his first foot on the Moon. While governments do maintain a regulatory role, their involvement is miniscule compared to the massively diverse commercial operation of the World Wide Web.I would assert that the lion’s share of government-funded innovation is ill-advised and fruitless. But occasionally, we come together as a nation to invest in worthy pursuits that provide a very beneficial return. What began as an ideological duel between communism and capitalism, Sputnik versus Apollo, has resulted in a highly productive manned space flight program.So, should we fund NASA to send people to Mars? Should we explore the science of matter, space and time at the Department of Energy’s Fermi National Accelerator Laboratory? How about “the synthesis, analysis, and engineering of rare-earth metals” at Ames Laboratory? These investments may be too risky or too colossal for private industry to initiate. And answering some of the big questions, like how the universe began, will have no monetary return.America, please give us some wise leadership for a change. We need to replace quotes like, “I think when you spread the wealth around, it’s good for everybody” with quotes like, “Yet the vows of this Nation can only be fulfilled if we in this Nation are first, and, therefore, we intend to be first. In short, our leadership in science and in industry, our hopes for peace and security, our obligations to ourselves as well as others, all require us to make this effort, to solve these mysteries, to solve them for the good of all men, and to become the world's leading space-faring nation.”

Education

Space Privatization allows a mission to Mars and revitalizes a stagnating education

Wagstaff 14 February 2011(Paul Wagstaff is a staff reporter for the Utopianist) http://utopianist.com/2011/02/for-sale-mission-to-mars-nasa-looks-to-raise-corporate-money-for-trip/

The Taco Bell Mars Express! The Doritos Cool Ranch Rover! Could corporate sponsorships be the future of space travel? That’s what NASA is hoping. The agency recently proposed a plan in which the agency would raise $160 billion from companies to fund a manned mission to Mars. The plan is to license broadcast rights, toys, movies, clothing, games and more, or even sell Mars’ mineral and land rights, although the latter plan seems a bit premature.

NASA has never done this before and, of course, there are potential problems. Space.com quotes Timothy Nelson, who specializes in the totally awesome-sounding practice of space law, brings up a good point: ”I think it likely most people would find it difficult to conceive there wouldn’t be any government involvement in such a mission … The possession of a rocket alone would probably trip you up on the military regulations that govern the ownership of missile technology in the United States.”Not to mention the pressure to produce profits and kick off the mission quickly might be at odds with the reality of the situation–that planning and safely executing a manned mission to Mars would take a lot of time and a lot of testing. Still, with Congress proposing a $100 billion in spending cuts, the likelihood of a completely government-funded mission to Mars doesn’t seem likely any time soon.We shouldn’t be surprised in NASA’s move to partly privatize space exploration. From Blackwater to the X Prize, spheres that used to be the exclusive domain of the government are now run by private corporations, with mixed results (yes, we’re subtly hinting about Blackwater, err, I mean, Xe Services). While there is something unsettling in involving a profit motive for, say, military personnel, using corporate money to send a man to Mars seems less controversial. Hell, it’s even been done before, albeit on a smaller scale, when Pizza Hut sponsored a rocket back in 1999. And lets not forget that the Department of Defense already contracts its R&D work out to giant corporations like Northrop Grumman and Boeing. Getting private companies involved isn’t that rare and, in this case, doesn’t seem too troubling. NASA predicts that a project like this could add a total of 500,000 jobs over 10 years to the United States and renew students’ interest in science and space exploration.Now comes the trickier dilemma: selling land and mineral rights on Mars. Once people found out there were 90 billion barrels of oil hidden in the Arctic, it didn’t take the United States, Russia, Canada, Norway and Denmark long before they starting giving each other the evil eye and finding ways to claim more of the land for themselves. As for now, there are no laws concerning divvying up land on other planets (not that it matters until we find a way to live on Mars). If there are indeed valuable minerals on Mars, its easy to see how the negotiations over land rights could get nasty. Do we want individual countries laying claim to mineral deposits in Mars? Do we want individual corporations to?Still, compared to the technical and financial barriers of sending a man to the Red Planet, dividing up the planet’s resources seems easy. As the planet recovers from the global recession, using corporate money might be our only option.

Space Leadership

Privatization of Space is the only way to deal with NASAs flaws and help the US succeed in space leadership

Foust 10 (Jeff, editor and publisher of the Space Review, “Review: The Privatization of Space Exploration.” 5/3/2011. <http://www.thespacereview.com/article/1617/1>)

One of the biggest debates about the Obama Administration’s revised space exploration plan is the emphasis it places on commercial providers to astronauts to and from low Earth orbit. For some, this is a long-overdue recognition of the growing capabilities of the commercial space sector and an opportunity by NASA to hand over the more routine (relatively speaking) aspects of spaceflight so that the agency can focus on the cutting-edge exploration only it can do. For others, it is a tragic error that will lead to the loss of American leadership in space as commercial entities find themselves unable to provide safe, affordable transportation on schedule. That debate, though, is hardly a new one, as advocates have argued for years that it’s time for the government to transition more activity to the private sector. That’s the case made in The Privatization of Space Exploration, a book written in 2008 but still largely relevant today.

In The Privatization of Space Exploration, Lewis Solomon, a law professor at George Washington University, makes the case for an enhanced role for private ventures in space. He links the increased interest in commercial human spaceflight to the flights of SpaceShipOne in 2004 that won the $10-million Ansari X PRIZE: “it got people excited to dream again about human spaceflight.” It’s such commercial efforts, he argues, that can lift NASA from decades of “stagnation”, provided that the agency is more willing to work with such ventures than it has in the past.

He links the increased interest in commercial human spaceflight to the flights of SpaceShipOne in 2004: “it got people excited to dream again about human spaceflight.”

Much of the slender book (only about 120 pages, excluding the table of contents and index) is devoted to profiles of four companies Solomon sees at the forefront of the new wave of commercial space activity: Scaled Composites (and its work with Virgin Galactic), Space Adventures, SpaceX, and Bigelow Aerospace. Some of these profiles are now a little dated, as one might expect after two years: the SpaceX chapter, for example, makes several references to the proposed Falcon 5 medium-class rocket that the company has since shelved. A later—and more evergreen—chapter deals with some of the legal issues associated with commercial space activity (as one might expect from a law professor), including the uncertainties about private property rights under current legal regimes.

Solomon is largely sympathetic to the argument that a greater role for the commercial space industry is essential to humanity long-term future in space. “For too long, NASA’s culture remained indifferent, if not hostile, to commercial activity,” he writes. “In the early decades of the twenty-first century, perhaps NASA managers will embrace commercialization and innovation.” Today NASA’s leadership appears to have done just that, with the pro-commercialization elements of the new budget proposal. However, whether NASA will follow through—and whether the commercial sector can, in fact, deliver—will be among the key questions of space policy in the coming years.

NASA Fails

The Private Space Industry is economically and technologically ahead of NASA, it’s time for America to take notice.

Jacob 2004,(Paul Jacob is the President of Citizens in Charge Foundation, and is a guest author for townhall.com) http://townhall.com/columnists/pauljacob/2004/11/21/time\_to\_defund\_nasa

The most important news story of this fall, ultimately more important than the re-election of the president, was the awarding of the X Prize to Burt Rutan for his SpaceShipOne flights. For it shows that private enterprise is both willing and able to enter space. At a profit. TheSpace Age has launched into a new era, the Industrial Space Age. So it's time to rethink NASA. Now, recently, NASA had big news, too. Its X-43A scramjet broke the world speed record for an atmosphere-burning aircraft, going nearly ten times the speed of sound. It achieved not only speed, but glided down to the earth's surface for a soft landing. An impressive feat, and one that news accounts proclaimed would usher in a new age of space travel. But after the soft landing in the ocean, NASA **abandoned** its multi-million dollar plane to sink as **junk**. Contrast this with SpaceShipOne, which cost a tenth of NASA's effort and has shot up into space several times and come back down for re-use. This is no small contrast. NASA is still mired in the old "throw money away" method of space travel. Of course, the new plane is still in its early stages, and was controlled remotely, not manned. But the idea of testing such expensive equipment and throwing it away seems wasteful, as if millions of dollars that went into it were nothing, and the jet itself, after the test, was of no more value than a model airplane. Burt Rutan, on the other hand, demonstrates the real savvy of the new age: safety, reusability, economy. Rutan's spacecraft, not NASA's, presages the future. The argument for a heavily funded space agency made some sense before private enterprise got interested. Tax money and government direction jump-started the space age, before private enterprise did, or could have. But things are different now. There is no reason that private enterprise could not soon take over the job of placing and even fixing commercial satellites in orbit. Since 1984, the Office of Commercial Space Transportation ? a division not of NASA, but of the FAA ? has licensed over 150 private flights, including those of SpaceShipOne. Indeed, NASA's Shuttle program may have done more to retard the industrialization of space in the past twenty years than anything else, simply by distracting attention and efforts away from better technology.

NASA has failed, empirically proven, private companies the only way

Edward L. Hudgins, Jan 28th, 2004. “Move Aside NASA”. formerly director of regulatory studies for the Cato Institute and editor of *Regulation* magazine, is an expert on the regulation of space and transportation, pharmaceuticals, and labor. http://www.cato.org/pub\_display.php?pub\_id=2514

One reaction to President Bush's plan for a permanent moon base and a trip to Mars is, "Great! It's about time NASA stopped going around in circles in low Earth orbit and returns to real science and exploration." Unfortunately, there's not a snowball's chance in the sun that the same agency that currently is constructing a downsized version of its originally planned space station, decades behind schedule, at 10 times its original budget, a few hundred miles up in orbit, will be able to build a station several hundred thousand miles away on the moon.If Americans are again to walk on the moon and make their way to Mars, NASA will actually need to be downsized and the private sector allowed to lead the way to the next frontier.But after the triumphs of Apollo, NASA failed to make space more accessible to mankind. There were supposed to be shuttle flights every week; instead, there have been about four per year. The space station was projected to cost $8 billion, house a crew of 12 and be in orbit by the mid-1990s. Instead, its price tag will be $100 billion and it will have only a crew of three. Worse, neither the station nor the shuttle does much important science.Governments simply cannot provide commercial goods and services. Only private entrepreneurs can improve quality, bring down the prices, and make accessible to all individuals cars, airline trips, computers, the Internet, you name it. Thus, to avoid the errors of the shuttle and space station, NASA's mission must be very narrowly focused on exploring the moon and planets, and perhaps conducting some basic research, which also might serve a defense function. This will mean leaving low Earth orbit to the private sector.Thus, the shuttle should be given away to private owners. The United Space Alliance, the joint venture between Boeing and Lockheed-Martin that refurbishes the shuttle between flights, would be an obvious candidate. Let a private owner fly it for paying customers--including NASA, if necessary -- if it is still worth flying.NASA also should give up the money-draining space station, and sooner rather than later. The station might be turned over to international partners or, better still, to the mostly private Russian rocket company, Energia -- and the Western investors who were in the process of commercializing and privatizing the Mir space station before the Russian government brought it down for political reasons. If need be, NASA can be a rent-paying station tenant.NASA centers that drive up its overall budget but do not directly contribute to its mission should be shut down. If the government wants to continue satellite studies of the climate and resources or other such functions, they could be turned over to other agencies, such as EPA and Interior Department. NASA and the rest of the government should contract for launch services with private companies, which would handle transportation to and from low Earth orbit. Contracting with private pilots with private planes is what the Post Office did in the 1920s and 1930s, which helped the emerging civil aviation sector. Further, to facilitate a strong private space sector, the government needs to further deregulate launches, export licensing and remove other barriers to entrepreneurs.Creating enterprise zones in orbit would help make up for government errors of the past. Rep. Dana Rohrabacher proposes a "Zero Gravity, Zero Tax" plan that would remove an unnecessary burden from "out-of-this-world risk-takers."NASA will also need to do business in new, innovative ways. For example, if a certain technology is needed for a moon mission, NASA could offer a cash prize for any party that can deliver it. The federal government used such an approach for aircraft before World War II, modeled after private prizes that helped promote civil aviation.Even if the federal government foots the bill for a moon base, it should not own it. Rather, NASA should partner with consortia of universities, private foundations and even businesses that are interested in advancing human knowledge and commercial activities. NASA could simply be a tenant on the base.Or consider a radical approach proposed by former Rep. Bob Walker. The federal government wouldn't need to spend any taxpayer dollars if it gave the first business to construct a permanent lunar base with its own money a 25-year exemption from all federal taxes on all of its operations, not just those on the Moon. Think of all the economic activity that would be generated if a Microsoft or General Electric decided to build a base! And the tax revenue from that activity probably would offset the government's revenue losses from such an exemption.If we're true to our nature, we will explore and settle planets. But only individuals with vision, acting in a free market, will make us a truly space-faring civilization.

**NASA fails. Privatizing space exploration is key to developing cheap, efficient space technologies.**

**Garmong, 05** (Robert Garmong, PhD. writer for the Ayn Rand Institute from 2003 to 2004. “Privatize Space Exploration” *Capitalism Magazine* 07/22/11 <http://www.capitalismmagazine.com/science/space/4327-privatize-space-exploration.html>

Two years ago, a Bush Administration panel on space exploration recommended that NASA increase the role of private contractors in the push to permanently settle the moon and eventually explore Mars. Unfortunately, it appears unlikely that NASA will consider the true free-market solution for America's expensive space program: complete privatization.

There is a contradiction at the heart of the space program: space exploration, as the grandest of man's technological advancements, requires the kind of bold innovation possible only to minds left free to pursue the best of their creative thinking and judgment. Yet, by funding the space program through taxation, we necessarily place it at the mercy of bureaucratic whim. The results are written all over the past twenty years of NASA's history: the space program is a political animal, marked by shifting, inconsistent, and ill-defined goals.

The space shuttle was built and maintained to please clashing special interest groups, not to do a clearly defined job for which there was an economic and technical need. The shuttle was to launch satellites for the Department of Defense and private contractors--which could be done more cheaply by lightweight, disposable rockets. It was to carry scientific experiments--which could be done more efficiently by unmanned vehicles. But one "need" came before all technical issues: NASA's political need for showy manned vehicles. The result, as great a technical achievement as it is, was an over-sized, over-complicated, over-budget, overly dangerous vehicle that does everything poorly and nothing well. Indeed, the space shuttle program was supposed to be phased out years ago, but the search for its replacement has been halted, largely because space contractors enjoy collecting on the overpriced shuttle without the expense and bother of researching cheaper alternatives. A private industry could have fired them--but not so in a government project, with home-district congressmen to lobby on their behalf.

There is reason to believe that the political nature of the space program may have even been directly responsible for the Columbia disaster. Fox News reported that NASA chose to stick with non-Freon-based foam insulation on the booster rockets, despite evidence that this type of foam causes up to eleven times as much damage to thermal tiles as the older, Freon-based foam. Although NASA was exempted from the restrictions on Freon use, which environmentalists believe causes ozone depletion, and despite the fact that the amount of Freon released by NASA's rockets would have been trivial, the space agency elected to stick with the politically correct foam.

It is impossible to integrate the contradictory. To whatever extent an engineer is forced to base his decisions, not on the realities of science but on the arbitrary, unpredictable, and often impossible demands of a politicized system, he is stymied. Yet this politicizing is an unavoidable consequence of governmental control over scientific research and development.

Nor would it be difficult to spur the private exploration of space--it's been happening, quietly, for years. The free market works to produce whatever there is demand for, just as it now does with traditional aircraft. Commercial satellite launches are now routine, and could easily be fully privatized. The X Prize, which SpaceShipOne won, offered incentives for private groups to break out of the Earth's atmosphere.  
But all this private exploration is hobbled by the crucial absence of a system of property rights in space. Imagine the incentive to a profit-minded business if, for instance, it were granted the right to any stellar body it reached and exploited.

We often hear that the most ambitious projects can only be undertaken by government, but in fact the opposite is true. The more ambitious a project is, the more it demands to be broken into achievable, profit-making steps--and freed from the unavoidable politicizing of government-controlled science. If space development is to be transformed from an expensive national bauble whose central purpose is to assert national pride to a practical industry, it will only be by unleashing the creative force of free and rational minds.

Private Actors Cost Effective

The privatization of space costs less

Martin Rees, Sept. 15, 2008, Space Privatization–from Cato to the BBC,http://www.cato-at-liberty.org/space-privatization-from-cato-to-the-bbc/

He concludes that fostering good relations with other countries is insufficient justification for the expenditures, and that NASA should move aside and allow the private sector to play a role in manned space flight. The cost of these activities must lessen if they are to continue, and that will only happen with a decrease or removal of government involvement. Rees observes that only NASA deals with science, planetary exploration, and astronauts, while the private sector is allowed to exploit space commercially for things such as telecommunications. However, there is no shortage of interest in space entrepreneurship: wealthy people with a track record of commercial achievement are yearning to get involved. Rees sees space probes plastered with commercial logos in the future, just as Formula One racers are now.Those ideas may sound radical, but not if you’ve been following the work of the Cato Institute. As long ago as 1986, Alan Pell Crawford [wrote](http://www.cato.org/pub_display.php?pub_id=935) hopefully that “space commercialization … is a reality,” and looked forward to the country making progress toward a free market in space. The elimination of NASA was a recommendation in the Cato Handbook for Congress in 1999.Edward L. Hudgins, former editor of Regulation magazine, wrote a great deal about private options in space. In 1995, he testified before the House Committee on Appropriations that the government should move out of non-defense related space activities, noting the high costs and wastefulness incurred by NASA. In 2001, Hudgins wrote “A Plea for Private Cosmonauts,” in which he  urged the United States to follow the Russians (!) in rediscovering the benefits of free markets after NASA refused to honor Dennis Tito’s request for a trip to the ISS. Hudgins testified again before the House in 2001, this time before the Subcommittee on Space and Aeronautics. He noted that since the beginning of the Space Age, NASA has actively discouraged and barred many private space endeavors. This effectively works against the advancement and expansion of technology, while pushing out talent to foreign countries who court American scientists and researches to launch from their less-regulated facilities. In “Move Aside NASA,” Hudgins reported that neither the station nor the shuttle does much important science. This makes the price tag of $100 billion for the ISS, far above its original projected cost, unjustifiable.Michael Gough in 1997 argued that the space “shuttle is a bust scientifically and commercially” and that both successful and unsuccessful NASA programs have crowded out private explorers, eliminating the possibility of lessening those problems. Molly K. Macauley of Resources for the Future argued in the Summer 2003 issue of Regulation that legislators and regulators had failed to take into account “the ills of price regulation, government competition, or command-and-control management” in making laws for space exploration.

**Private companies see profits in space exploration**

**Diamandis, 2010** (Peter Diamandis, chief executive of X Prize Foundation, CEO of Zero Gravity. Published in The Wall Street Journal. 07/23/11. “The Case for Private Space” <http://online.wsj.com/article/SB10001424052748703382904575059350409331536.html>

Government agencies have dominated space exploration for three decades. But in a new plan unveiled in President Barack Obama's 2011 budget earlier this month, a new player has taken center stage: American capitalism and entrepreneurship. The plan lays the foundation for the future Google, Cisco and Apple of space to be born, drive job creation and open the cosmos for the rest of us. Two fundamental realities now exist that will drive space exploration forward. First, private capital is seeing space as a good investment, willing to fund individuals who are passionate about exploring space, for adventure as well as profit. What was once affordable only by nations can now be lucrative, public-private partnerships. Second, companies and investors are realizing that everything we hold of value—metals, minerals, energy and real estate—are in near-infinite quantities in space. As space transportation and operations become more affordable, what was once seen as a wasteland will become the next gold rush. Alaska serves as an excellent analogy. Once thought of as "Seward's Folly" (Secretary of State William Seward was criticized for overpaying the sum of $7.2 million to the Russians for the territory in 1867), Alaska has since become a billion-dollar economy. The same will hold true for space. For example, there are millions of asteroids of different sizes and composition flying throughout space. One category, known as S-type, is composed of iron, magnesium silicates and a variety of other metals, including cobalt and platinum. An average half-kilometer S-type asteroid is worth more than $20 trillion. Technology is reaching a critical point. Moore's Law has given us exponential growth in computing technology, which has led to exponential growth in nearly every other technological industry. Breakthroughs in rocket propulsion will allow us to go farther, faster and more safely into space.

**NASA has no real benefits. We need to step aside and allow private companies to explore space.**

**Boaz, 2008** (David, Executive Vice President of the CATO Institute, “Space Privatization,” 07/21/11 <http://www.cato-at-liberty.org/space-privatization-from-cato-to-the-bbc/>

In the premier issue of BBC Knowledge, the Cambridge University astrophysicist Martin Rees makes several provocative arguments about manned space flight. They are:

\*The completion of the International Space Station (ISS) comes with a price tag of $50 billion, with the only profit being the cooperation with foreign partners.

\*There is no scientific, commercial, or military value in sending people to space.

\*Future expeditions to the Moon and beyond will only be politically and financially feasible if they are cut-price ventures.

He concludes that fostering good relations with other countries is insufficient justification for the expenditures, and that NASA should move aside and allow the private sector to play a role in manned space flight. The cost of these activities must lessen if they are to continue, and that will only happen with a decrease or removal of government involvement. Rees observes that only NASA deals with science, planetary exploration, and astronauts, while the private sector is allowed to exploit space commercially for things such as telecommunications. However, there is no shortage of interest in space entrepreneurship: wealthy people with a track record of commercial achievement are yearning to get involved. Rees sees space probes plastered with commercial logos in the future, just as Formula One racers are now.

**Private space companies will minimize the cost of space exploration.**

**Villacampa, 06** (Alexander Villacampa, University of Florida. 07/21/11. “NASA: Exemplary of Government Waste” <http://www.lewrockwell.com/orig7/villacampa2.html>

The solution the problem of NASA overspending and endless mishaps is, like all government programs, privatization. If the citizenry, through the market process, find it profitable to invest and consume products that are tied to space exploration, so be it. In such a scenario no individual is forced to pay for products that continuously fail to meet their expectations. In addition, private companies that take on the task of space exploration will be doing so at a profit and trying to minimize cost. This is significantly different from the wasteful practices of government and public sector programs. Whenever costs outweigh profits, precious resources have been wasted in the production of that good or service. In the private sector, entrepreneurs quite literally pay the price for having misused resources and the costs will cut into the entrepreneur’s income. If this occurs, either changes are to be made in order to cut costs or the entrepreneur will need to shut down the business. When public sector industries waste resources, often times no direct harm is done to their ability to continue the misuse of funding. Any punishment comes down from the legislature and usually comes with multi-millions of dollars in addition funding. It is a time-proven fact that when a private sector company fails, they go out of business yet if a public sector industry fails, they get additional funding. In order to save the taxpayer from having to pay the increasing costs of a hopeless space exploration program, simply disband NASA and allow the market to decide if such practices are needed in society. If the market decides that these services are in fact desired then it will take hold of these projects while trying to reduce the use of valuable resources. This is becoming evident in the success of SpaceShipOne’s flight in 2004. SpaceShipOne showed the world that the market can do marvelously what NASA has, time and time again, continuously failed to accomplish. The success of SpaceShipOne also spurred the creation of another private space exploration program, Virgin Galactic, that intends to send private individuals into space. Currently, the price of travel into space with Virgin Galactic is $200,000. That is right, $200,000. Not only is Virgin not doing this at a cost (if they were it would quickly fail) but they are allowing private individuals to take part in an experience that was only granted to government scientists. In addition, the risk of these spacecrafts will, in time, diminish as corporations feel an increasing need to secure their customers or else suffer heavy loses. Safety is a hefty concern for individuals who are risking their lives and money in order to partake in an emerging industry. Space shuttles Columbia and Challenger illustrate that even though NASA engineers might only want the best for its passengers, safety has not been such a prime concern as to prevent any of these tragic moments from occurring.

**Private companies will ensure a cheaper, more efficient space program.**

**Boaz, 2008** (David, Executive Vice President of the CATO Institute, “Space Privatization,” 07/21/11 <http://www.cato-at-liberty.org/space-privatization-from-cato-to-the-bbc/>

The National Aeronautics and Space Administration has long had major cost overrun problems, such as on its space station program. A GAO report in 2009 found that 10 of 13 major projects examined had substantial cost overruns or schedule delays. Alan Stern, a former NASA associate administrator, recently noted that “our space program is run inefficiently, and without sufficient regard to cost performance,” and further noted that costs overruns are a “cancer” on the agency.

Perhaps it’s a little unfair to use the word “compete” since SpaceX is receiving federal funds from NASA. That said, it seems clear that allowing the private sector to play a greater role in space is ideal, especially given NASA’s history of fiscal mismanagement. Whereas private companies are responsible to shareholders, NASA is responsible to policymakers who are often more concerned about maintaining space-related jobs in their districts rather than getting the best bang for the taxpayer buck.

AT: Links to Politics

Space commercialization is key to success and avoids the politics DA

Michael A.G. Michaud, “Reaching for Higher Frontier, The American Pro-Space Movement”, Copyright 1986 by Praeger Publishers and reproduced with permission of Greenwood Publishing Group, Inc., Westport, CT.

Space commercialization had become a legitimized field by the early 1980s and a growing one. Orbital Sciences Corporation President David Thompson has said that the number of companies in space enterprise went from 3 in 1980, when they invested about $10.5 million, to 25 in 1983, when their total investment was estimated at about $175 million.[[65](http://www.nss.org/resources/library/spacemovement/chapter12.htm" \l "n65)] Aviation Week and Space Technology and Space Calendar havepublished lists of companies involved in space commercialization; as many as 350 had expressed interest as of 1984.[[66](http://www.nss.org/resources/library/spacemovement/chapter12.htm#n66)] The Center for Space Policy has projected the potential annual revenues to be generated by the end of the century by major category of space business as follows:[[67](http://www.nss.org/resources/library/spacemovement/chapter12.htm#n67)One new organization betting on the future of space industrialization is the American Interstellar Society, a nonprofit membership organization seeking to build a financial base to support entrepreneurial space ventures. Like the Committee for the Future's Project Harvest Moon, the society believes that people who own a share of stock will have more of a proprietary stake in the development of space commercialization than those who are just onlookers.Some observers, notably George Washington University space policy expert John M. Logsdon, have warned that space commercialization is in danger of being oversold.[[68](http://www.nss.org/resources/library/spacemovement/chapter12.htm#n68)] Like the space phenomenon in general, it may not develop as quickly as some of its advocates would wish, and many of the new companies will fail. Both Jerry Grey and Charles Sheffield believe that true commercial activity will not get under way until the 1990s.[[69](http://www.nss.org/resources/library/spacemovement/chapter12.htm" \l "n69)] On the other hand, there also have been predictions that space commerce then will grow with unexpected rapidity, partly because there are fewer vested interests or legal and regulatory restrictions in space. " in 2000," says Gregg Fawkes, "cannot be predicted."[[70](http://www.nss.org/resources/library/spacemovement/chapter12.htm#n70)] Philosophically and politically, many of the new space entrepreneurs are closely linked with hard-line private enterprise ideology. Two of the most vocal exponents in Congress for space industrialization led by the private sector have been Congressmen Newt Gingrich of Georgia and Robert Walker of Pennsylvania, who also are leading spokesmen for the Conservative Opportunity Society.However, the motives are not just economic. One finds in many of the space entrepreneurs that same streak of independence or liber­tarianism that appeared in some of the pro-space citizens groups, notably the L-5 Society and the American Society of Aerospace Pilots. They see in space commercialization an opportunity not just for profit but also for liberty. Entrepreneurship also provides an alternative, possibly shorter route to career advancement in the space field than the traditional choices open to pro-space people, such as working one's way up through the bureaucracy of NASA or a large aerospace corporation or being active in a pro-space group. Some of the pro-space groups have provided avenues for individuals to get involved in space commerce; some of the new space entrepreneurs, such as GCH, Arc Technologies/Starstruck, and Space Services Incorporated, hired space activists. In a sense, the new, young space entrepreneurs are a subculture of the pro-space movement.It would seem that some space advocates have found a new way of turning space as an avocation into space as a vocation. Commercialization is a short cut to the space dream. Space commercialization could create a new and potentially influential set of economic interests, distinctively oriented toward space rather than being submerged in aerospace. This could strengthen the pro-space constituency. Many of the entrepreneurial companies are not contractors to NASA but independent actors whose lobbying in Washington is more against restrictions on their activities than for federal funding. As of 1984, lobbyists for the new launch vehicle companies were exchanging information in an informal network. With the support of the administration, the National Chamber of Commerce, and others, a loose coalition supporting private sector space development is emerging, far better funded than the citizens activists who played a role in legitimizing these ideas and bringing them to the attention of the public.Space commercialization, like space militarization, is a potentially divisive issue for the pro-space movement. In the eyes of some, space commercialization tarnishes the "purity" of space. But the criticisms have been much less severe than in the case of space weapons. Many recognize that space commercialization could help to reduce the dependence of civilian space activities on politics and the annual budget process; it is an alternative to politically or militarily driven space projects (although it has become possible only because NASA and the Department of Defense funded the development of many of the technologies). Although it may be a slower route to the planets and the stars than a politically motivated space program like Apollo, space commercialization may be more lasting. Observes Robert L. Staehle of the World Space Foundation: "No frontier has ever prospered on government money alone."[[71](http://www.nss.org/resources/library/spacemovement/chapter12.htm#n71)]

**The American people support privatization of space**

**Healy, 7/12 2011** (Gene Healy, Vice President at Cato Institute, B.A. from Georgetown University, J.D. from UChicago Law School, “Space Program: Biggest Bridge to Nowhere” 07/23/11, <http://www.downsizinggovernment.org/space-program-biggest-bridge-nowhere>

Sorry, Charlie: The public's not buying it. A 2010 Rasmussen poll showed that more Americans think private enterprise should pay for space exploration than think government should fund it. By nearly 2-to-1 margins, they also oppose sending federally funded astronauts to the moon or Mars. As far as Americans are concerned, space is the ultimate "bridge to nowhere."

Privatization of outer space does not rely on public opinion, it is a governmental decision

Davis - Floyd 00 (Robbie, Anthropologist and contributor to University of Chicago Press. 2/11/2001, COMMERCIALIZING OUTER SPACE: THE SATWG STORIES, <http://www.davis-floyd.com/USERIMAGES/File/Commercializing%20outer%20space.pdf>)

Industry’s myth speaks of the Government as Creator, attributing to it near-divine responsibility for generating cheap and easy access to space. The techies and engineers, lesser angels and acolytes in the heavenly hierarchy of aerospace, chorus that it’s not design or technology that’s lacking, but governmental money and mandate. The independent entrepeneurs tell their story of streamlining and efficiency, of willingness to jump in and fill market niches that increased government funding would open up. But government’s myth says that the gods have fallen--they don’t run Olympus any more; the polls do. And popular opinion does not mandate massive government funding of “space.” As a government-funded agency, NASA’s story as told at SATWG meetings is the story of a vast bureaucracy determined to hold onto its jobs and its identity. But the engineers and managers from NASA’s five major centers (Johnson, Kennedy, Marshall, Lewis, and Ames) who come to SATWG tell many different stories about what NASA is and should become.

\*\*\*Affirmative Answers\*\*\*

NASA Good

NASA isn’t a money pit, it helps the nation.

Sterner, Eric. **Guelph Mercury, 2011** “NASA’s objectives misunderstood” (NASA's former associate deputy administrator for policy and planning)

(http://www.guelphmercury.com/opinion/columns/article/559055--nasa-s-objectives-misunderstood)

Those who complain that it is a waste to spend money in space forget that NASA creates jobs. According to the agency, it employs roughly 19,000 civil servants and 40,000 contractors in and around its 10 centres. In the San Francisco Bay area alone, the agency says it created 5,300 jobs and $877 million worth of economic activity in 2009. Ohio, a state hard-hit by the Great Recession that is home to NASA's Plum Brook Research Station and Glenn Research Center, can't lose nearly 7,000 jobs threatened by NASA cuts.

Even more people have space-related jobs outside the agency. According to the Colorado Space Coalition, for example, more than 163,000 Coloradans work in the space industry. Though some build rockets for NASA, none show up in the agency's job data.

3. NASA's research is useful only in space.

So, what about breast exams? Algorithms developed for the Hubble Space Telescope improved image processing in mammography. Been caught in a natural disaster? NASA advances in deployable radio antennae helped secure emergency communications after hurricane Katrina and the 2010 Haiti earthquake. Fighting the war on terror? Miniaturized sensors that sniff the air for traces of life on other planets led to the development of easy-to-use, hand-held devices to detect explosives and chemical agents on this one. NASA technology often finds a way back to Earth.

But high-tech spinoffs are not the primary reason to explore space. NASA advances human knowledge. Its alpha magnetic spectrometer, recently affixed to the space station, will help answer questions about the total of all matter and offer new insights into the origins and nature of the universe. Hubble has already furthered our understanding of the big bang, black holes, neutrinos and dark energy - issues at the heart of physics and mathematics. Since space missions rely heavily on solar power, NASA is always searching for ways to improve solar cells and batteries and may one day help cure America of its oil addiction. These developments would not appear on NASA's cost-benefit balance sheet, but they are no less valuable to society.

NASA is an obstacle to private enterprise in space.

In a recent debate, Republican presidential candidate Newt Gingrich said that "NASA ought to be getting out of the way and encouraging the private sector." In truth, NASA is not an obstacle to the free market. The agency does not prohibit space entrepreneurs from starting businesses. Where a demand for goods and services exists in the space industry - principally in telecommunications, but perhaps soon in suborbital human spaceflight - firms such as the space-transport company Virgin Galactic are trying to provide them.

The bulk of NASA's missions are not commercially viable and are unlikely ever to be. There is not enough demand for robotic missions to Mars, Hubble space telescopes and alpha magnetic spectrometers to justify private investment. If NASA worked the way policymakers such as Gingrich want it to - paradoxically "getting out of the way" while providing venture capitalists government money to start space businesses - the agency could actually hurt private enterprise in space. NASA would not be better at picking commercial winners and losers than the rest of the government. By making poor or even politically motivated choices, it could spoil a free market.

No Solvency

Private Companies cant travel to the moon, too risky

Nell Greenfieldboyce. Jan. 28, 2011, “NASA Prepares For Risks In Private Space Travel” Nell Greenfieldboyce joined NPR News in January 2005 to cover the media organization's newly created technology beat for NPR's science desk. The Johns Hopkins alumna has reported on topics such as pet cloning, gene therapy, ballistics, and federal laws surrounding new technology. Her primary interest is researching how applied science and technology connects with people and culture.http://www.npr.org/2011/01/28/133308080/nasa-prepares-for-risks-in-private-space-travel

As NASA somberly marks the 25th anniversary of the space shuttle Challenger accident, the agency is looking ahead to the retirement of its aging space shuttle fleet later this year. The next astronauts to travel to space may go instead by private spacecraft designed and owned by commercial companies.But a deadly accident like Challenger could have serious ramifications for the fledgling commercial space industry as it tries to take over the job of ferrying astronauts up to low Earth orbit and the International Space Station.Any accident would probably result in a long investigation and spaceflights being grounded — after Challenger and Columbia, it was years before the shuttles flew again. What would that do to a private company?"A lot depends on how the private company reacts, and a lot of it depends on the root cause of the failure," says Ken Bowersox, a former NASA astronaut who now works on safety issues for SpaceX, one of the private companies vying to someday take NASA astronauts and other paying customers to orbit."But you can imagine that any company in that situation would have a lot of pressure on it," says Bowersox.NASA would also be under scrutiny, even if it didn't own the spacecraft carrying its astronauts, says Ed Mango, who heads the space transportation planning office at Kennedy Space Center in Florida.For a few years after the space shuttles become museum exhibits, NASA astronauts will get to space on Russian Soyuz capsules. But Mango says that by around 2015 or 2016, it's possible that astronauts could be riding on the outer space version of rental cars — spacecraft designed and owned not by NASA but by private companies.Even if that happens, though, "the responsibility for the mission is still ultimately accountable to NASA," Mango says. "And if the vehicle does not fly right, then we will be held accountable for what has happened."The SpaceX Falcon 9, carrying a Dragon capsule, lifts off the launch pad at Launch Complex 40 at Cape Canaveral on Dec. 8, 2010.So NASA has been preparing a list of safety standards that a private spaceship would have to meet before any NASA astronaut climbs onboard. Some space industry watchers have criticized a draft of these standards as being too onerous.But Bowersox says his company is just glad to finally get this guidance from NASA."Safety is our No. 1 priority at SpaceX when it comes to building our rockets," he says.An unmanned test version of the SpaceX capsule has already launched, orbited Earth and returned as planned. If the company has a number of successful missions carrying cargo, people could be next.And just because the SpaceX rocket ship is designed to be cheap, that doesn't mean it won't be safe, says Bowersox. "Let's look at a Ferrari and a Honda Civic," he says. "They're greatly different in cost, but would you say that the little economy cars are less safe or more safe than the Ferrari?"Other companies, such as Orbital Sciences Corporation of Virginia, also hope to soon offer crew launching services for NASA.Mango says government officials are discussing what might need to be done to ensure that a commercial space company could financially survive the aftermath of a disaster, if NASA had come to depend on its launch services for astronauts. "In general, we are looking at that," says Mango. "We don't have a solution that's pounded flat. We are looking at it."It's unclear how the public would feel about a major disaster with a private spaceship, if people started riding them. John Logsdon, a space policy expert with George Washington University, says if an accident occurred during some of the first commercial trips up, it might create doubt about whether private companies can really manage the risks of human spaceflightNASA and the American public have learned a few things about space science since the explosion."But if it's three years in to a regular service, I think it would be, not exactly ho-hum, but more akin to an aircraft accident than a space accident," says Logsdon.After all, these private space companies wouldn't be boldly exploring a new frontier, as NASA used to. They'd just be providing a kind of commuter flight to the space station."Yes, there are risks involved, but there is nothing written in stone that says the government can manage those risks better than the private sector," says Logsdon.

Private Companies have failed before, not up to the job

Taylor Dinerman, Feb. 13, 2010, “Space: The Final Frontier of Profit?”, —Taylor Dinerman writes a regular column for thespacereview.com and is a member of the board of advisers of Space Energy, a company working on space-solar-power concepts.space.http://online.wsj.com/article/SB10001424052748703382904575059263418508030.html

The private sector simply is not up for the job. For one, NASA will have to establish a system to certify commercial orbital vehicles as safe for human transport, and with government bureaucracy, that will take years. Never mind the challenges of obtaining insurance.Entrepreneurial companies have consistently overpromised and under-delivered. Over the past 30 years, over a dozen start-ups have tried to break into the launch business. The only one to make the transition into a respectably sized space company is Orbital Sciences of Dulles, Va. Building vehicles capable of going into orbit is not for the fainthearted or the undercapitalized.The companies that have survived have done so mostly by relying on U.S. government Small Business Innovation Research contracts, one or more angel investors, or both. Big aerospace firms tempted to join NASA's new projects will remember the public-private partnership fiasco when Lockheed Martin's X-33 design was chosen to replace the space shuttle in 1996. Before it was canceled in 2001 this program cost the government $912 million and Lockheed Martin $357 million. In the 1990s, Kistler Aerospace designed a reusable launcher using reconditioned Russian engines. In 2006, reorganized as Rocketplane Kistler, it won a share in a NASA program designed to deliver cargo to the International Space Station. When the company did not meet a financial milestone the following year, NASA withdrew financing. The Clinton administration saw the DC-X as a Reagan/Bush legacy program, and was happy to cancel it after the accident. The sad lesson of the DC-X is that some politicians won't keep their predecessors' programs going, no matter how promising. To turn the DC-X into a space launch vehicle would have taken at least a couple of decades and a few billion in investments. Yet the total cost might not have been much more than the amount the government has spent on other failed launch vehicle development programs over the past 20 years. Recent history shows that development programs take a long time to mature, but when they do they can produce excellent results. Since it was given the go-ahead in 1984, the space station has faced delays, cost overruns and an unceasing barrage of criticism. Yet NASA kept at it. With the full-time six-person crew now operational, the range of technological and scientific work being done has increased dramatically, from fluid physics experiments to tests on the effects of microgravity on human physiology. George W. Bush's promising Constellation human spaceflight program—which would be killed under Mr. Obama's plan—has already cost $9 billion since 2004. It is hard to imagine how the private sector can build a replacement for the spacecraft and booster rockets of Constellation, let alone a program to get America back to the moon, with the relatively paltry sum of $6 billion and the scattershot funding approach that NASA's leaders are proposing. The Augustine Commission's recent report to the White House was entitled "Seeking a Human Spaceflight Program Worthy of a Great Nation." The space entrepreneurs may claim that they can send people into space for a fraction of the previous cost, but they have not yet proved it. NASA's policy is neither bold nor new; it is yet another exercise in budget-driven program cancellation. Until the American government can bring itself to choose a path and stick to it for more than a single administration, its claim to be worthy of a great nation will be in doubt.

No Barrier Now

**White House has begun funding private NASA operations- CP is occurring the the status quo**

**Pasztor, 2010** (Andy Pasztor, Senior special writer at LA Bureau for the Wall Street Journal. “White House Decides to Outsource NASA Work” 07/23/11, <http://online.wsj.com/article/SB10001424052748704375604575023530543103488.html>

The White House has decided to begin funding private companies to carry NASA astronauts into space, but the proposal faces major political and budget hurdles, according to people familiar with the matter.

The controversial proposal, expected to be included in the Obama administration's next budget, would open a new chapter in the U.S. space program. The goal is to set up a multiyear, multi-billion-dollar initiative allowing private firms, including some start-ups, to compete to build and operate spacecraft capable of ferrying U.S. astronauts into orbit—and eventually deeper into the solar system.

There have been many opportunities to allow the privatization of space activities, but companies don’t respond

Hudgins, 98 (Edward, L. Director of regulatory studies at the Cato Institute “Time to Privatize NASA” <http://www.cato.org/pub_display.php?pub_id=5960>

The government has had many opportunities to turn over civilian space activities to the private sector. In the 1970s, American Rocket Co. was one of the private enterprises that wanted to sell launch services to NASA and private businesses. But NASA was moving from science to freight hauling, and planned to monopolize government payloads on the shuttle and subsidize launches of private cargo as well. The agency thus turned down American Rocket.

In the late 1980s, Space Industries of Houston offered, for no more than $750 million, to launch a ministation that could carry government and other payloads at least a decade before NASA's station went into operation. (NASA's station currently comes with a price tag of nearly $100 billion for development, construction and operations.) NASA, not wishing to create its own competition, declined Space Industries' offer.

In 1987 and 1988, a Commerce Department-led interagency working group considered the feasibility of offering a one-time prize and a promise of rent to any firm or consortium that could deliver a permanent manned moon base. When asked whether such a base were realistic, private-sector representatives answered yes -- but only if NASA wasn't involved. That plan was quickly scuttled.

Each shuttle carries a 17-story external fuel tank 98 percent of the distance into orbit before dropping it into the ocean; NASA could easily -- and with little additional cost -- have promoted private space enterprise by putting those fuel tanks into orbit. With nearly 90 shuttle flights to date, platforms -- with a total of 27 acres of interior space -- could be in orbit today.

These could be homesteaded by the private sector for hospitals to study a weightless Mr. Glenn or for any other use one could dream of. But then a $100 billion government station would be unnecessary.

As long as NASA dominates civilian space efforts, little progress will be made toward inexpensive manned space travel. The lesson of Mr. Glenn's second flight is that space enthusiasts ignore economics at their peril.